

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Rolf Engstrand	§	Group Art Unit:	2475
Serial No:	10/597,334	§	Examiner:	Zhao, Wei
Filed:	02/21/2007	§	Confirmation No.:	9406
		§		
For:		§	ACCESS CONTROL FOR MULTICAST CHANNEL REQUEST	

Via EFS-Web

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P. O. Box 1450
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Date: March 17, 2010


Jennifer Hardin

Dear Sir:

APPEAL UNDER 35 U.S.C. §134

This Brief is submitted in connection with the decision of the Examiner set forth in the Final Official Action dated December 18, 2009, finally rejecting claims 15-22, which are all of the pending claims in this application. The Examiner repeated his position in an Advisory Action dated February 25, 2010.

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §41.20(b)(2) that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-1379.

Real Party in Interest

The real party in interest, by assignment, is: Telefonaktiebolaget LM Ericsson (publ)
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Stockholm, Sweden

Related Appeals and Interferences

None.

Status of Claims

Claims 15-22 are pending in the present application, each of which are finally rejected and form the basis for this Appeal. The Examiner rejected claims 15 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Momona (US 6,434,117) in view of Koch et al. (US 2006/0013247). Claims 16-18 and 20-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Momona in view of Koch et al. as applied to claim 15 or 19, and in further view of Richardson et al. (US 2006/0038877).

Claims 15-22, including all amendments to the claims, are attached in the Claims Appendix. The rejection of claims 15-22 is appealed.

Status of Amendments

The claims set out in the Claims Appendix include all entered amendments. Minor amendments to claims 15 and 19 to correct informalities were filed and entered subsequent to the final rejection.

Summary of Claimed Subject Matter

Claim Element - Claim 15	Specification Reference
A method for access control in a multicast system in which data is sent from a source over a common link to an arbiter node associated with a plurality of users, wherein the arbiter node distributes the data to at least two users, the method comprising the steps of:	FIG. 3
assigning a weight to each user associated with the arbiter node, wherein the	FIG. 3, step 101 Page 6, lines 3-10

weights indicate a percentage of an available bandwidth on the common link each user is provisionally allowed to use;	Page 12, lines 3-6
receiving at the arbiter node, a request to join a new multicast session from a first user;	FIG. 3, step 102 Page 7, lines 12-13 Page 12, lines 7-10
determining by the arbiter node, an actual bandwidth that the first user would utilize if the request to join the new multicast session is granted, wherein the actual bandwidth for the first user is calculated as the sum of the first user's bandwidth part of each currently ongoing session in which the first user is a participant plus the first user's bandwidth part of the new multicast session, wherein the first user's bandwidth part of any given session is calculated as the bandwidth required for the given session divided by the total number of users participating in the given session;	FIG. 3, step 103 Page 6, lines 11-16 Page 7, lines 14-28 Page 12, lines 11-14
determining by the arbiter node, an allowed bandwidth for the first user, wherein the allowed bandwidth for the first user is calculated as the available bandwidth on the common link multiplied by the weight assigned to the first user;	FIG. 3, step 105 Page 8, lines 5-10 Page 12, lines 19-21
comparing by the arbiter node, the actual bandwidth for the first user with the allowed bandwidth for the first user;	FIG. 3, step 106 Page 12, lines 22-26

granting the request when the actual bandwidth for the first user is less than or equal to the allowed bandwidth for the first user; and	Page 10, lines 1-5 Page 10, line 20
denying the request when the actual bandwidth for the first user is greater than the allowed bandwidth for the first user.	FIG. 3, step 107 Page 8, lines 16-20 Page 12, lines 27-28

Claim Element - Claim 16	Specification Reference
The method according to claim 15, further comprising the steps of:	
determining that the first user previously used the new multicast session within a previous predefined period of time;	Page 11, lines 6-9 Page 17, lines 11-13
temporarily increasing the weight assigned to the first user;	Page 11, lines 10-12 Page 17, line 14
determining by the arbiter node, a new allowed bandwidth for the first user by multiplying the available bandwidth on the common link by the increased weight assigned to the first user; and	Page 8, lines 5-10 Page 11, lines 1-5 Page 12, lines 19-21
granting or denying the request based on the new allowed bandwidth for the first user.	Page 17, lines 15-16

Claim Element - Claim 17	Specification Reference
The method according to claim 16, further comprising, prior to increasing the weight assigned to the first user, the step of determining that the first user used the new	Page 11, lines 19-29 Page 17, lines 18-23

multicast session for a period of time that exceeds a predetermined guarantee time.	
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Claim Element - Claim 18	Specification Reference
The method according to claim 16, further comprising the steps of:	
detecting that the first user has left the requested multicast session; and	Page 11, lines 14-15 Page 17, lines 11-13
in response, reducing the weight assigned to the first user to the weight's original value.	Page 11, lines 14-15 Page 18, lines 1-6

Claim Element - Claim 19	Specification Reference
An arrangement in an arbiter node for controlling access in a multicast system in which data is sent from a source over a common link to the arbiter node, wherein the arbiter node distributes the data to at least two users associated with the arbiter node, the arrangement comprising:	FIG. 1, BN21-BN28 & ARB21-ARB28 FIG. 5, BN21 & ARB21 Page 14, lines 15-27
means for assigning a weight to each user associated with the arbiter node, wherein the weights indicate a percentage of an available bandwidth on the common link each user is provisionally allowed to use;	FIG. 5, CU and MEM1 Page 7, lines 1-11
communication means for receiving a request to join a new multicast session from a first user;	FIG. 5, ADSL-1 & MU Page 7, lines 12-13
means for determining an actual bandwidth that the first user would utilize if the	FIG. 5, CU and MEM1 and MEM2 Page 6, lines 11-16

request to join the new multicast session is granted, wherein the actual bandwidth for the first user is calculated as the sum of the first user's bandwidth part of each currently ongoing session in which the first user is a participant plus the first user's bandwidth part of the new multicast session, wherein the first user's bandwidth part of any given session is calculated as the bandwidth required for the given session divided by the total number of users participating in the given session;	Page 7, lines 14-28
means for determining an allowed bandwidth for the first user, wherein the allowed bandwidth for the first user is calculated as the available bandwidth on the common link multiplied by the weight assigned to the first user;	FIG. 5, CU and MEM1 and MEM2 Page 8, lines 5-10
means for comparing the actual bandwidth for the first user with the allowed bandwidth for the first user;	FIG. 5, CU and MEM1 and MEM2 Page 8, lines 16-19
means for granting the request when the actual bandwidth for the first user is less than or equal to the allowed bandwidth for the first user; and	FIG. 5, CU and MEM1 and MEM2 Page 5, line 32 - Page 6, line 2
means for denying the request when the actual bandwidth for the first user is greater than the allowed bandwidth for the first user.	FIG. 5, CU and MEM1 and MEM2 Page 8, lines 16-20

Claim Element - Claim 20	Specification Reference
The arrangement according to claim 19, further comprising:	

means for determining that the first user previously used the new multicast session within a previous predefined period of time;	FIG. 5, CU and MEM1 and MEM2 Page 11, lines 6-9 Page 17, lines 11-13
means for temporarily increasing the weight assigned to the first user;	FIG. 5, CU and MEM1 and MEM2 Page 11, lines 10-12 Page 17, line 14
means for determining a new allowed bandwidth for the first user by multiplying the available bandwidth on the common link by the increased weight assigned to the first user; and	FIG. 5, CU and MEM1 and MEM2 Page 8, lines 5-10 Page 11, lines 1-5 Page 12, lines 19-21
wherein the request is granted or denied based on the new allowed bandwidth for the first user.	Page 17, lines 15-16

Claim Element - Claim 21	Specification Reference
The arrangement according to claim 20, wherein the means for temporarily increasing the weight assigned to the first user increases the weight only if the first user used the new multicast session for a period of time that exceeds a predetermined guarantee time.	FIG. 5, CU and MEM1 and MEM2 Page 11, lines 19-29 Page 17, lines 18-23

Claim Element - Claim 22	Specification Reference
The arrangement according to claim 20, further comprising:	
means for detecting that the first user has left the requested multicast session; and	FIG. 5, CU and MEM1 and MEM2 Page 11, lines 14-15 Page 17, lines 11-13
means for reducing the weight assigned	FIG. 5, CU and MEM1 and MEM2

to the first user to the weight's original value in response to detecting that the first user has left the requested multicast session.	Page 11, lines 14-15 Page 18, lines 1-6
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The specification references listed above are provided solely to comply with the USPTO's current regulations regarding appeal briefs. The use of such references should not be interpreted to limit the scope of the claims to such references, nor to limit the scope of the claimed invention in any manner.

Grounds of Rejection to be Reviewed on Appeal

- 1.) Independent claims 15 and 19 stand rejected, under 35 U.S.C. § 103(a) as being unpatentable over Momona (US 6,434,117) in view of Koch et al. (US 2006/0013247).
- 2.) Dependent claims 16-18 and 20-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Momona in view of Koch et al. as applied to claim 15 or 19, and in further view of Richardson et al. (US 2006/0038877).

Argument

- 1.) Rejection of claims 15 & 99 under 35 U.S.C. 103(a) as being unpatentable over Momona (US 6,434,117) in view of Koch et al. (US 2006/0013247)

To establish a *prima facie* case of obviousness, all of the claim limitations must be taught or suggested by the cited combination of references. (MPEP 2143). A *prima facie* case of obviousness has not been established for independent claims 15 and 19. Claim 15 is a method claim, and claim 19 is a corresponding apparatus-type claim. Claim 15 is representative, and is shown below with the emphasized elements that are missing from the prior art:

15. A method for access control in a multicast system in which data is sent from a source over a common link to an arbiter node associated with a plurality of users, wherein the arbiter node distributes the data to at least two users, the method comprising the steps of:

assigning a weight to each user associated with the arbiter node, wherein the weights indicate a percentage of an available bandwidth on the common link each user is provisionally allowed to use;

receiving at the arbiter node, a request to join a new multicast session from a first user;

determining by the arbiter node, an actual bandwidth that the first user would utilize if the request to join the new multicast session is granted, wherein the actual bandwidth for the first user is calculated as the sum of the first user's bandwidth part of each currently ongoing session in which the first user is a participant plus the first user's bandwidth part of the new multicast session, wherein the first user's bandwidth part of any given session is calculated as the bandwidth required for the given session divided by the total number of users participating in the given session;

determining by the arbiter node, an allowed bandwidth for the first user, wherein the allowed bandwidth for the first user is calculated as the available bandwidth on the common link multiplied by the weight assigned to the first user;

comparing by the arbiter node, the actual bandwidth for the first user with the allowed bandwidth for the first user;

granting the request when the actual bandwidth for the first user is less than or equal to the allowed bandwidth for the first user; and

denying the request when the actual bandwidth for the first user is greater than the allowed bandwidth for the first user.

For this Appeal, the Applicant will focus on claim 15, although the arguments are also applicable to independent claim 19. Each claimed limitation will be looked at in order.

1. *assigning a weight to each user associated with the arbiter node, wherein the weights indicate a percentage of an available bandwidth on the common link each user is provisionally allowed to use;*

The Examiner cites Momona, col. 9, lines 5-13. However, this passage only discloses that a source node 10A sends a session channel setup request to a multicast manager 10D for requesting the bandwidth desired by the destination node 10C. This is done by setting the control register 30 of manager 10D with the session data and the bandwidth data received with the reservation message from the destination node. If the

request is granted, a reply packet is transmitted from the multicast manager to the source node where the control register 40 is set with the assigned channel number (step 1104). Even if it is assumed the Examiner is equating Momona's multicast manager with the Applicant's arbiter node, there is no disclosure of the step of assigning a weight to each user associated with the arbiter node.

2. *receiving at the arbiter node, a request to join a new multicast session from a first user;*

The Examiner cites Momona, col. 9, lines 5-13. This would seem to indicate that the Examiner is equating the multicast manager with the Applicant's arbiter node, although the Examiner never expressly stated so, even when asked by the Applicant. The Applicant does not claim there is anything new about receiving a request to join a new multicast session; however, the claimed arbiter node is new.

3. *determining by the arbiter node, an actual bandwidth that the first user would utilize if the request to join the new multicast session is granted, wherein the actual bandwidth for the first user is calculated as the sum of the first user's bandwidth part of each currently ongoing session in which the first user is a participant plus the first user's bandwidth part of the new multicast session, wherein the first user's bandwidth part of any given session is calculated as the bandwidth required for the given session divided by the total number of users participating in the given session;*

The Examiner cites Koch, paragraph 0060, lines 1-14. This paragraph discloses that an individual ONT 38 may initially receive a unique packet stream from a corresponding OLT module 35 via unique source 33. The unique packet stream may be received at a constant rate by the individual ONT 38. The transmission rate may be a default rate set by the individual ONT 38 or the OLT module 35 or may be determined based on the available bandwidth capacity of the ONT 38 at the time the individual ONT 38 requested the stream. The individual ONT 38 may then select a second packet stream to receive. The second packet stream may be a common packet stream or a different unique packet stream. As an example, subscriber devices 39 connected to the individual ONT 38 may send an IGMPv2 join request to join a multicast group. The

individual ONT 38 listens for the IGMPv2 join request and selects the common packet stream associated with the multicast group as previously described.

The only statement in this paragraph remotely related to the claimed limitation is that the transmission rate may be determined based on the available bandwidth capacity of the ONT 38 at the time the individual ONT 38 requested the stream. However, there is no disclosure whatsoever of the detailed process recited in the Applicant's claimed limitation for determining by the arbiter node, an actual bandwidth that the first user would utilize if the request to join the new multicast session is granted.

4. *determining by the arbiter node, an allowed bandwidth for the first user, wherein the allowed bandwidth for the first user is calculated as the available bandwidth on the common link multiplied by the weight assigned to the first user;*

The Examiner cites Momona, col. 10, lines 3-7. This passage discloses that a session setup request from the source node 10A is detected at step 1310. Since the resource reservation protocol is a receiver-oriented protocol, this request contains the bandwidth the destination node 10C is ready to receive as well as the session data. In response to this request, the multicast manager 10D proceeds to step 1311 to compare the bandwidth requested by the destination node with a value currently set in the bandwidth field of the corresponding entry of allocation table 20. However, there does not seem to be any disclosure of the Applicant's step of calculating the allowed bandwidth for the first user as the available bandwidth on the common link multiplied by the weight assigned to the first user. It cannot be found where Momona ever assigned any weights to each user in a multicast session.

5. *comparing by the arbiter node, the actual bandwidth for the first user with the allowed bandwidth for the first user;*

The Examiner cites Momona, col. 10, lines 3-7. This passage discloses that the multicast manager compares the bandwidth requested by the destination node with a value currently set in the bandwidth field of the corresponding entry of allocation table 20. However, there is no indication that the value set in the allocation table is computed in the manner claimed by the Applicant, i.e., calculating the allowed bandwidth for the

first user as the available bandwidth on the common link multiplied by the weight assigned to the first user.

6. *granting the request when the actual bandwidth for the first user is less than or equal to the allowed bandwidth for the first user; and*

The Examiner cites Koch, paragraph 0060, lines 1-9. This passage discloses how the ONT 38 sets the transmission data rate. There does not seem to be anything related to the claimed limitation. Since there is no disclosure in Momona or Koch of the claimed process for determining the actual bandwidth that the first user would utilize if the request to join the new multicast session is granted, or of the process for determining an allowed bandwidth for the first user utilizing the weight assigned to the first user, then the Applicant's granting step based on those two criteria cannot be deduced.

7. *denying the request when the actual bandwidth for the first user is greater than the allowed bandwidth for the first user.*

The Examiner cites Koch, paragraph 0060, lines 1-9. This passage discloses how the ONT 38 sets the transmission data rate. There does not seem to be anything related to the claimed limitation. Since there is no disclosure in Momona or Koch of the claimed process for determining the actual bandwidth that the first user would utilize if the request to join the new multicast session is granted, or of the process for determining an allowed bandwidth for the first user utilizing the weight assigned to the first user, then the Applicant's denying step based on those two criteria cannot be deduced.

Thus, the combination of references does not disclose or suggest all of the claimed limitations of claim 15. Thus, the claimed invention would not be obvious to a person of ordinary skill in the art when presented with Momona and Koch. Therefore, a *prima facie* case of obviousness has not been established, and the allowance of claim 15 is respectfully requested.

Apparatus-type claim 19 corresponds to claim 15 and also clearly recites an arrangement in an arbiter node that is structurally and functionally different and unobvious from the disclosures of Momona and Koch. Thus, claim 19 is also allowable over Momona and Koch.

2.) Rejection of claims 16-18 and 20-22 under 35 U.S.C. § 103(a) as being unpatentable over Momona in view of Koch et al. as applied to claim 15 or 19, and in further view of Richardson et al. (US 2006/0038877)

Claims 16-18 and claims 20-22 depend from independent claims 15 and 19, respectively, and recite further limitations in combination with the novel and unobvious limitations of claims 15 and 19. Therefore, the allowance of claims 16-18 and 20-22 is respectfully requested.

The shortcomings of Momona and Koch have been discussed above. Richardson does not overcome these shortcomings. The Examiner cited Richardson for showing a predefined period of time and using the time period in the manner recited in claims 16-18 and 20-22. The Applicant respectfully disagrees.

The time period referred to in Richardson is not the same time period claimed in the Applicant's invention. Richardson describes in paragraph 0204, a time reservation system employed to reserve time periods for using a videoconference system. Richardson creates a Quality of Service contract for the duration of the videoconference session. This is not what the Applicant's claims recite.

The Applicant's claims recite that when a user *leaves* a multicast session, the weight assigned to the user is temporarily increased for a predefined period of time. Thus, if the user tries to rejoin the session within the predefined period of time, the user is given priority. After the predefined period of time, the priority is removed. This is clearly different from the time period and process described in Richardson, which merely guarantees a QoS level for the duration of a videoconference. Thus, the Applicant's claims relate to a time period that the user is *out* of the session, and the time period in Richardson is when the user is *in* the session.

Thus, the combination of Momona, Koch, and Richardson does not render obvious, the invention recited in claims 16-18 and 20-22. Therefore, a *prima facie* case of obviousness has not been established, and the allowance of claims 16-18 and 20-22 is respectfully requested.

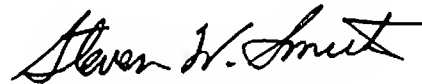
The Advisory Action dated 02/25/2010

In response to the Applicant's detailed arguments filed in a Request for Reconsideration on February 17, 2010, the Examiner issued an Advisory Action on February 25, 2010. The Examiner did not respond to the Applicant's detailed arguments, but merely block-and-copied his erroneous arguments from the Final Office Action.

CONCLUSION

For all the above reasons, the allowance of claims 15-22 is respectfully requested. Claims 15-22 are patentable over the cited art of record, and the Applicants request that the Examiner's rejection thereof be reversed and the application be remanded for further prosecution.

Respectfully submitted,



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